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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/855,483      | 05/15/2001  | Richard J. Tomaszewski | P01-3573            | 9601             |

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EXAMINER

MAYO, KIMBERLY N

ART UNIT PAPER NUMBER

2187

DATE MAILED: 10/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/855,483

Applicant(s)

TOMASZEWSKI AND FAIRCHILD

Examiner

Kimberly N. McLean-Mayo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other:

### **DETAILED ACTION**

1. The enclosed detailed action is in response to the Application submitted on May 15, 2001 and the Information Disclosure Statement submitted on November 19, 2001.

#### ***Specification***

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-21 and 23-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Blumenau (USPN: 6.028,725).

Regarding claims 1, 3 and 10, Blumenau discloses a rotating data storage disk comprising at least two data storage areas (Figure 4, References C1 and C2), wherein each area is sized to store a copy of a set of data and the data storage areas are substantially equidistantly spaced from each other (C 6, L 54-65), wherein the at least two data storage areas comprise a number of storage areas and the disk exhibits a characteristic virtual revolutions per minute (RPM) that is a multiple n of the actual spin speed of the rotating data storage disk (inherent).

Regarding claim 2, Blumenau discloses the two rotating storage disk are located at radially opposed locations at a substantially 180 degree angular offset with respect to a spin axis of the rotating data storage disk and mirrored across the spin axis (C 6, L 57-61).

Regarding claim 4, Blumenau discloses at least two magnetic recording surfaces (Figure 8), wherein the data storage areas are formed in a single one of the at least two magnetic recording surfaces (Figure 4; C 6, L 61-65; C 21, L 21-26).

Regarding claim 5, Blumenau discloses the disk comprising at least two magnetic recording surfaces, wherein the data storage areas are formed in separate ones of the at least two magnetic recording surfaces (Figure 11; C 16, L 11-36).

Regarding claims 6-7, Blumenau teaches that a disc drive system include one or more discs of a recording medium, which may be magnetic recording medium or an optical recording medium (C 1, L 16-19).

Regarding claim 8, Blumenau discloses the disk further comprising a plurality of concentric tracks defined on the disk and all of the at least two data storage areas are located on the same track (Figure 4).

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Regarding claim 9, Blumenau discloses the disk further comprising a plurality of concentric tracks defined on the disk and all of the at least two data storage areas are located within plus or minus one track of the same track (Figure 2; C 21, L 21-26).

Regarding claims 11-12 and 18, Blumenau discloses one or more platters, each platter (inherent) supporting at least one recording surface, wherein the platters are aligned about a common central axis (C 1, L 16-20); means for spinning the platters about the common central axis (arm; C 1, L 38-45); a recording head associated with each recording surface (C 1, L 38-40); and actuator mechanism coupled to each recording head to move the recording head into proximity with selected portions of the recording surface in response to received commands (C 1, L 42); and at least two replicates of data stored in at least two data storage areas such that any one of the at least two replicates can be accessed to service a data access request (C 6, L 54-65); wherein the at least two data storage areas comprise a number of storage areas and the disk exhibits a characteristic virtual revolutions per minute (RPM) that is a multiple  $n$  of the actual spin speed of the rotating data storage disk (inherent).

Claim 13 is rejected for the same rationale applied to claim 3 above.

Claim 14 is rejected for the same rationale applied to claim 4 above.

Claim 15 is rejected for the same rationale applied to claim 5 above.

Claims 16-17 are rejected for the same rationale applied to claim 9 above.

Regarding claim 19, Blumenau discloses the disk drive system comprising a command processor having an interface to receive external disk access requests and coupled to provide the commands to the actuator mechanism (Figure 3, Reference 31); and memory coupled to the command processor and configured to store redundant write access request commands such that the at least two replicates can be stored asynchronously (Figure 3, References 27 and 24).

Regarding claims 20 and 23-31, Blumenau discloses receiving an access request which specifies a logical location of a set of data to be accessed (write request); replicating the access request, wherein at least two physical locations located at radially opposed locations on the disk media (when the embodiment shown in Figure 2 is used for mirroring) corresponding to the logical location of the data is determined (C 6, L 35-53 - when the data is mirrored in the data storage system, the request is replicated. It is evident that the location of the data has to be determined, otherwise, the system would not where to store the data in the mirrored region); executing at least one of the access request and the replicated access request to a disk media within the data storage mechanism (when the data is mirrored, the write request and the replicated write request is executed).

Regarding claim 21, Blumenau discloses a SCSI unit (C 6, L 12-14) and thus it is evident that the access request is received over a SCSI bus.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (USPN: 6,028,725).

Blumenau discloses the limitation cited above in claim 20, however, Blumenau does not explicitly disclose receiving an access request over an IDE bus. IDE interfaces are well known in the art for their reduced cost (compared to SCSI) and for their simplicity. Hence, it would have been obvious to use an IDE interface such that the access request is received over an IDE bus in Blumenau's system for the desirable purpose of reduced cost and simplification.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

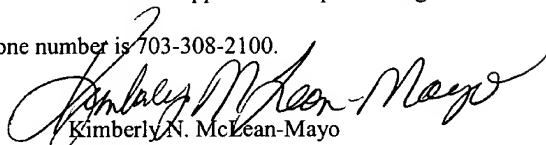
Ottesen – USPN: 5,463,758 – reducing seek time in mirrored DASD files.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly N. McLean-Mayo whose telephone number is 703-308-9592. The examiner can normally be reached on M-F (9:00 - 6:30) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Do Yoo can be reached on 703-308-4908. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7329 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2100.

  
Kimberly N. McLean-Mayo  
Examiner  
Art Unit 2187

KNM

September 7, 2002